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June 20, 2011

Via Email: shaw.hanh@epa.gov

Ms. Hanh Shaw

USEPA, Region 10

1200 Sixth Avenue, Ste. 900, OWW-130

Seattle, WA 98101

Via Email: michelle.bonnet@alaska.gov

Ms. Michelle Bonnet

Alaska Department of Environmental Conservation

Wastewater Discharge Authorization Program

555 Cordova Street

Anchorage, AK 99501

RE: Re-proposal of Effluent Limits for Mercury, Copper, Silver, Total Aromatic Hydrocarbons, Total Aqueous Hydrocarbons, and Whole Effluent Toxicity for Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters in Cook Inlet, Alaska, NPDES Permit No. AKG-31-5000, and § 401 Certification Antidegradation Analysis for NPDES Permit No. AKG-31-5000 Limit Re-Proposal

Dear Ms. Shaw and Ms. Bonnet:

Please accept these comments on the U.S. Environmental Protection Agency, Region 10 ("EPA") Re-proposal of Effluent Limits for Mercury, Copper, Silver, Total Aromatic Hydrocarbons, Total Aqueous Hydrocarbons, and Whole Effluent Toxicity for Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters in Cook Inlet, Alaska, NPDES Permit No. AKG-31-5000 ("Cook Inlet General Permit" or "CIGP"), and the Alaska Department of Environmental Conservation ("DEC") § 401 Certification Antidegradation Analysis for NPDES Permit No. AKG-31-5000 Limit Re-Proposal ("Antidegradation Analysis" or "401 Certification"). The comments are provided on behalf of Cook Inletkeeper, the Native Village of Port Graham, the Native Village of Nanwalek, Cook Inlet Fisherman's Fund, and the United Cook Inlet Drift Association ("Commenters").

The procedural history regarding these effluent limits is generally as described in the EPA Fact Sheet. This re-proposal of the effluent limits sets forth an action with a back-up alternative. Because EPA agreed that DEC's public process regarding the previous 401 Certification was legally defective, it now re-proposes the same effluent limits proposed in 2006, so long as DEC's Antidegradation Analysis is legally sufficient, which EPA suggests is the case. If, however, the Antidegradation Analysis is determined

by EPA to be insufficient, then the more stringent limits from the 1998 CIGP Permit will be reinstated. This is an unusual way to proceed, and as a result, many of the previous legal issues regarding these effluent limits remain and new issues have also arisen, both with the EPA portion of the Re-proposal and DEC's 401 Certification of the Re-proposal. Each will be discussed in turn.

Commenters oppose the less stringent effluent limits and support reinstating the more stringent 1998 permit limits. The less stringent limits authorize significant toxic discharges to Cook Inlet with no restriction on the volume of the discharges. These limits result in degraded water quality in Cook Inlet that has not been evaluated for its impact to the toxic pollutant loading to Cook Inlet and resulting impact on marine organisms that local Native villages rely upon for their very existence and commercial fisheries rely upon for their economic existence. Protection of water quality in Cook Inlet is of vital significance and importance to the health of present and future Alaskans, the quality of fish and shellfish harvested from State and federal waters, and the marketing of fish and shellfish from Cook Inlet.

The overarching objective of the CWA "is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To achieve this objective, Congress established several goals, including: (1) eliminating the discharge of pollutants into navigable waters by 1985; (2) attaining water quality that provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water by July 1, 1983; and (3) prohibiting the discharge of toxic pollutants in toxic amounts. *Id.* While water quality has improved in many cases since the passage of the Federal Water Pollution Control Act ("the Act" or "CWA"), these three goals have not yet been attained. In this case, EPA and DEC continue to allow unlimited discharge volumes and the mixing zones provided by the dischargers themselves, with no apparent independent verification. The resulting effluent limits and mixing zones arise from "back calculating" the desired dilution ratio instead of the agencies applying long-standing EPA guidance and proper modeling parameters to the end-of-the-pipe discharge to meet water quality standards.

I. EPA must exercise best professional judgment and impose more stringent technology-based effluent limits.

The CWA imposes a strict requirement on EPA to impose TBELs to control pollutant discharges on an industry-by-industry basis. Toxic discharges, like the produced water effluent discharged under the CIGP, are controlled at a level that represents the "best available technology economically achievable" ("BAT"). 33 U.S.C. § 1311(b)(2)(A)(i). Because the discharges controlled by this standard are toxic pollutants, the BAT standard is dynamic. In fact, the BAT standard is meant to encourage and in some instances "force" technological innovation and upgrades in treatment technology at less advanced facilities.

EPA can set TBELs by promulgating Effluent Limitation Guidelines ("ELGs") for industry categories or by applying best professional judgment ("BPJ") on a case-by-case basis during the development of a permit where the guidelines are inapplicable. 40 C.F.R. § 125.3(c)(1), (2). In the development of the CIGP, EPA simply applied the ELGs

for oil and gas facilities operating in the coastal subcategory even though the ELGs do not apply to all of the toxic pollutants discharged under the CIGP. For reasons established 15 years ago, the ELGs exempt Cook Inlet operators from the nationwide prohibition against discharging toxic produced water directly into the water body. Nevertheless, BAT for oil and gas facilities operating along the coast of the U.S. is reinjection or “zero discharge.”

Since the development of the ELGs, the oil fields in Cook Inlet have aged, and the produced water discharged into Cook Inlet has increased exponentially. EPA has not revised the ELGs despite acknowledging that “[s]ignificant environmental, economic, and technological changes have occurred since the last review of the guideline which Region 10 believes warrants additional review.” Response to Comments NPDES General Permit and Fact Sheet: Oil and Gas Exploration, Development and Production Facilities Located in State and Federal Waters in Cook Inlet, Permit No. AKG-31-5000 at 4 (Excerpts of Record¹ 167). Nor did EPA use its authority to, at the very least, investigate whether the pollutant parameters that were not considered in the development of the ELGs,² but which are discharged at ever-increasing rates, could be controlled using new or already-required technologies to achieve zero discharge.

EPA should impose TBELs “[o]n a case-by-case basis under section 402(a)(1) of the Act . . . to the extent that EPA-promulgated effluent limitations are *inapplicable*.” 40 C.F.R. § 125.3(c)(2) (emphasis added). For pollutants that were not addressed in the development of the ELGs, but have been found in the produced water from the Cook Inlet facilities – 1,2-dichlorobenzene, Acenaphthene, Antimony, Arsenic, Chromium, Mercury, Selenium, and Silver – EPA is required to inquire about available technologies that exist that could reduce or eliminate the pollutants that are not currently regulated under the ELGs. EPA should exercise BPJ to require BAT for those pollutants under section 301(b)(2)(A)(i) of the CWA.

The ELGs that apply to the produced water discharges under the CIGP seek to limit “oil and grease under BAT as an indicator pollutant controlling the discharge of toxic and nonconventional pollutants.” 61 Fed. Reg. at 66098. EPA claimed when it adopted them in 1996 that “[i]t has been shown . . . that oil and grease serves as an indicator for toxic pollutants in the produced water wastestream, including phenol, naphthalene, ethylbenzene, and toluene.” *Id.* While EPA does not plan to revisit any issues regarding the CIGP effluent limits except the re-proposed effluent limits, the Commenters believe that EPA should revisit all of the effluent limitations. The limits that require a TBEL analysis under EPA’s re-proposal approach are mercury and silver.

¹ “Excerpts of Record” refers to the Excerpts of Record in the case, *Cook Inletkeeper, et al. v. U.S. EPA*, Ninth Circuit Case No. 07-72420. If you need any of these documents, please let me know and I will provide them.

² The toxic pollutant parameters that were not considered in developing the ELGs, but which are found in the produced water effluent regulated under the CIGP, include the following: 1,2-dichlorobenzene; Acenaphthene; Antimony; Chromium; Mercury; Selenium; and Silver. Compare Excerpts of Record 753-54, 235 (listing pollutants in TBPF produced water), with Excerpts of Record 827 (listing pollutants considered in adopting the 1996 ELGs).

EPA has failed to implement TBELs for these pollutants in the CIGP and failed to explain why the ELGs apply to these pollutants in light of section 125.3. EPA is therefore violating 40 C.F.R. § 125.3(c)(2), and section 301(b)(2)(A)(i) of the CWA, by failing to set TBELs in the CIGP that require the “best available technology economically achievable” to control all pollutants, which is zero discharge. 33 U.S.C. § 1311(b)(2)(A)(i).

II. DEC’s Draft § 401 Certification

The State “certifies that there is reasonable assurance that the re-proposed effluent limits are in compliance with the requirements of §401 of the Clean Water Act, which includes the Alaska Water Quality Standards (18 AAC 70).” Draft State of Alaska Department of Environmental Conservation Certificate of Reasonable Assurance Reproposed Limits for AKG-31-5000 at 1. This Certification is illegal because (1) the Antidegradation Analysis is not legally valid; and (2) the authorized mixing zones are based upon computer modeling that uses inaccurate assumptions, or in the alternative, no mixing zones are authorized for the 1998 effluent limits.

A. The State’s 401 Certification violates antidegradation requirements.

When EPA revises permitting standards and limitations, the revision must be consistent with the state’s antidegradation policy. 33 U.S.C. § 1313(d)(4)(B); Handbook, p. 4-10. Antidegradation is not defined in statute or regulation, but it is a procedure to be followed when evaluating activities that may impact water quality. The implementation of that procedure is meant to ensure that water quality is maintained or improved, and that it may not be degraded.

Federal regulation requires that states include an antidegradation policy that is no less stringent than the federal antidegradation policy in every water quality standards package submitted to the EPA for review. See 40 C.F.R. §131.6(d). Alaska, like many states, has adopted the federal antidegradation policy “3-tier” requirements:

It is the state’s antidegradation policy that

- (1) existing uses and the level of water quality necessary to protect existing uses must be maintained and protected;
- (2) if the quality of a water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality must be maintained and protected unless the department, in its discretion, upon application, and after compliance with (b) of this section, allows the reduction of water quality for a short-term variance under 18 AAC 70.200, a zone of deposit under 18 AAC 70.210, a mixing zone under 18 AAC 70.240, or another purpose as authorized in a department permit, certification, or approval; . . .
- (3) if a high quality water constitutes an outstanding national resource, such as a water of national or state park or wildlife refuge or a water of exceptional recreational or ecological significance, the quality of that water must be maintained and protected

18 AAC 70.015(a).

EPA's antidegradation regulation also requires the State to "identify the methods for implementing such policy. . . ." 40 C.F.R. § 131.12(a). For compliance and enforcement purposes, this is the most important part of the antidegradation requirement. The procedures developed to implement the ADP must be designed to: (1) prohibit any degradation in some waters; (2) minimize the impacts of degrading activities in others; and (3) assure that in every case, existing uses are protected.

While DEC adopted its antidegradation policy, which was approved by EPA in 1997, DEC still has not established legal implementation procedures, and as a result, it cannot perform a legal antidegradation analysis for revised permitting standards and limitations in the Permit. On July 14, 2010, DEC issued Interim Antidegradation Implementation Methods — with no public process — to serve "as interim guidance to be used while the Division [of Water] works with other agencies, permittees and the public develop more detailed procedures." State of Alaska, Department of Environmental Conservation, Interim Antidegradation Implementation Methods at 1 (July 14, 2010). DEC did not undertake the formal rulemaking process prior to the issuance of the Interim Methods.

DEC, however, must comply with the Alaska Administrative Procedures Act ("APA") when it promulgates regulations. AS 46.03.880(a). The term "regulation" is broadly defined in the APA. AS 44.62.640(a)(3). *See also Gilbert v. State, Dep't of Fish and Game*, 803 P.2d 391, 396 (Alaska 1990) (stating that "[t]he legislature has broadly defined what constitutes a regulation under the [Alaska] APA"); *Messerli v. Dep't of Natural Res.*, 768 P.2d 1112, 1117 (Alaska 1989) (stating that the courts "take an expansive view of the term regulation), *overruled on other grounds by Olson v. State, Dep't of Natural Res.*, 799 P.2d 289 (Alaska 1990). To determine whether something is a regulation under the APA, the "character or use of the policy or rule" is important, not the label given the policy or rule by the agency. *Jerrel v. State, Dep't of Natural Res.*, 999 P.2d 138, 143 (Alaska 2000). Thus, "an indicia of a regulation is that it implements, interprets or makes specific the law enforced or administered by the state agency;" "[a]nother indicia of a regulation is that it 'affects the public or is used by the agency in dealing with the public.'" *Kenai Peninsula Fisherman's Co-op Ass'n, Inc. v. State*, 628 P.2d 897, 905, 906 (Alaska 1981), *citing* AS 44.62.640(a)(3). The Alaska Supreme Court has also indicated that if a policy or rule establishes criteria upon which to make a decision, *Kachemak Bay Watch, Inc. v. Noah*, 935 P.2d 816, 825 (Alaska 1997), or make policy decisions, *Usibelli Coal Mine, Inc. v. State*, 921 P.2d 1134, 1149 n.24 (Alaska 1996), then it is a regulation.

The Interim Methods fall within the definition of "regulation" under the APA, as the Interim Methods implement the antidegradation policy, provide the basis for DEC to make policy decisions, establish the criteria for evaluating discharge permits, and are used by DEC to apply that policy when issuing APDES permits and certifying NPDES permits, which affect the public. Because the Interim Methods are a regulation, DEC was required to comply with the procedures of the APA prior to issuing the Interim Methods. AS 46.03.880(a). However, the Interim Methods were not promulgated

under the procedures set forth in the APA, *see generally* AS 44.62, and thus, the Interim Methods are an illegal regulation and invalid for use in performing antidegradation analyses.

Thus, when DEC says in its cover letter for the 401 Certification that it “finds that any reduction in natural water quality of Cook Inlet to be in accord with the requirements of 18 AAC 70.015, Antidegradation Policy,” there is no basis for the finding because no antidegradation implementation analysis could legally be performed with the Interim Methods. 401 Certification, at 2. Litigation regarding the legality of the Interim Methods and its use for this very purpose is pending in Alaska Superior Court, *Alaska Ctr. for the Env’t, et al. v. State, Dep’t of Env’tl. Cons.*, Case No. 3AN-11-7159 CI.

B. The mixing zones must be reauthorized or authorized for the alternative proposal, but no mixing zone analysis is provided for either.

Both the EPA Fact Sheet and 401 Certification are silent regarding mixing zones for the re-proposed effluent limitations and the alternative reinstatement of the stricter 1998 effluent limitations. These scenarios are modifications of the CIGP effluent limits, and if mixing zones are to be authorized, then they must be proposed and public input sought.

If DEC intends to allow mixing zones for the re-proposed effluent limits that were authorized in the previous CIGP, then the calculations are legally flawed as described in the original comments of Cook Inletkeeper for the 2006 proposal. The mixing zones are based on legally flawed calculations and violate Alaska’s mixing zone regulations (18 AAC 70.240-.270).

In this case, computer models and mathematical calculations were used to simulate and predict the fate of pollutants that are discharged into Cook Inlet under the CIGP. As with any mathematical equation, the numbers used control the result. Simply stated, without accurate inputs based on reasonable decisions, the model results and subsequent calculations are skewed, and therefore inaccurate. Ultimately, if the results are inaccurate then there is no assurance that the water quality of Cook Inlet is adequately protected. The inaccurate model inputs, and therefore calculations, make the CIGP legally defective.

For a mixing zone computer model to yield accurate results it must have representative inputs based on real-world conditions. The mixing zone modeling that produced the dilution values in this case, however, bears no rational relationship to the receiving waters in Cook Inlet. If the dilution potential of the receiving water (*i.e.*, waste load allocation) is overestimated because the agency failed to account for critical conditions in the receiving water environment that lower the dilution potential, then the agency overestimates how much effluent can be discharged into the water to maintain water quality standards at the edge of the mixing zone. That means that even if a conservative approach is used to set water quality-based effluent limits for various toxic parameters, those pollutants will be discharged at a rate that will violate water quality

standards at the edge of the mixing zone and result in significantly increased pollutant loading in Cook Inlet.

The problems with the modeling are that it is not the real-world situation in Cook Inlet. Instead, DEC chose to model Cook Inlet as an ocean rather than an estuary; to ignore critical design conditions including stratification, tidal reversal, slack tides, or tidal reflux; and to manipulate the outfall configuration. DEC's decisions disregard EPA's guidance – the Technical Support Document for Water Quality-based Toxics Control – for determining mixing zones, model Cook Inlet in a way that departs from actual hydrological conditions, and approve huge mixing zones to accommodate the dischargers' ever-increasing discharges and pollutant loads. The expert support for these legal defects are described in the Review of Draft NPDES General Permit For Cook Inlet, Alaska Oil and Gas Operators, David LaLiberte of Liberte Environmental Associates (May 31, 2006), which is attached. Because the modeling for the Permit is not accurate, DEC did not ensure the smallest possible mixing zones for the Permit, which violates 18 AAC 70.240(a)(2).

In addition, because the modeling inputs do not accurately reflect the hydrodynamics of Cook Inlet, the lengths of the mixing zones are ridiculously large, and appear to violate the size requirements of Alaska's mixing zone regulations. *See* 18 AAC 70.255(e)(1) (in mixing zones in estuarine and marine environments, the cumulative linear length of all mixing zones intersected on any cross section cannot exceed 10% of the total length of that cross section, nor can the horizontal length exceed 10% of the surface area).

Further, if EPA determines that the 401 Certification Antidegradation Analysis is insufficient and reinstates the more stringent effluent limits from the 1998 permit, no mixing zones are authorized for those effluent limits. As such, the 1998 effluent limits must be met at the end of the pipe for all discharges under the CIGP.

III. The Re-proposed Effluent Limits Constitute Illegal Backsliding.

The re-proposed effluent limits are legally flawed because they constitute backsliding in violation of section 402(o) of the CWA. The "backsliding" prohibition and antidegradation mandate are two of the fundamental water quality protections in the Clean Water Act. Both requirements ensure that the states and EPA correctly implement the NPDES permitting program in a way that advances the Clean Water Act's ultimate goal of water pollution elimination. 33 U.S.C. § 1251. Without these legal protections in place, there is absolutely no assurance that water quality is protected and not unlawfully degraded.

The Clean Water Act prohibits backsliding of effluent limitations: A permit applicant may not obtain a renewed, reissued, or modified permit that contains less stringent effluent limitations than the comparable effluent limitations from the previous permit, unless the relaxed permit does not violate the state or federal antidegradation policy. *See* 33 U.S.C. § 1342(o)(1). Backsliding may also be allowed where

information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

33 U.S.C. § 1342(o)(2)(B)(i). *See also* 40 CFR § 122.44(l)(2)(i)(B)(1).

An anti-backsliding analysis does not require a direct comparison of effluent limits or the outputs of one model versus another. The first step of the analysis is to determine whether the water body is in attainment (*i.e.*, meets water quality standards). *See* Draft Interim Guidance on Implementation of Section 402(o) Anti-Backsliding Rules for Water Quality-Based Permits (“Anti-Backsliding Guidance”), p. 6. If the waters are in attainment, like Cook Inlet, backsliding may be permitted if it is consistent with the State’s antidegradation policy. *Id.*, pp. 6-7.

As discussed in Section II.A., DEC has not promulgated a legal implementation plan for its antidegradation policy. As a result, DEC cannot make the determination that relaxed mixing zones comply with Alaska’s antidegradation policy, and the exception that would allow backsliding does not apply.

Further, in the case of new information, relaxed permit limitations may be allowed only where there is “a net reduction in pollutant loadings that are not the result of another discharger’s elimination or substantial reduction of its discharge because of compliance with the CWA or for reasons unrelated to water quality (e.g., shut down of operations).” *Id.*, p. 7, n.10. There has been no such showing in this case. There is a continuously increasing discharge volume and increased pollutant loading. The fact that some facilities have ceased operation cannot be part of the anti-backsliding determination. Thus, the relaxed mixing zones and effluent limits violate 33 U.S.C. § 1342(o)(1) & (2).

Despite its failure to promulgate antidegradation implementation procedures for over fourteen years, DEC continues to issue 401 Certifications, with little analysis, that assert that water quality is not being degraded by EPA’s permitting decisions. And for EPA’s part, it continues to knowingly and blithely rely on these legally flawed certifications to allow backsliding. This illegal practice simply cannot be allowed to continue.

Conclusion

The re-proposed effluent limitations are legally flawed for the reasons discussed in this letter. Because of these flaws, EPA must reinstate the more stringent 1998 effluent limitations. More importantly, EPA must make an informed policy decision about whether the facilities covered by the Permit should even be allowed to discharge produced water and drilling fluids and cuttings. As detailed in these comments, zero discharge should be required, and it is economically and technically feasible to do so.

Thank you for the opportunity to comment. If you have any questions, please do not hesitate to call me at (907) 276-4244, ext. 110.

Very truly yours,

A handwritten signature in black ink, appearing to read "Vicki Clark", with a long horizontal flourish extending to the right.

Vicki Clark
Legal Director

cc: Cook Inletkeeper
Native Village of Port Graham
Native Village of Nanwalek
Cook Inlet Fisherman's Fund
United Cook Inlet Drift Association